The Expression Profile of Genes Involved in Interaction of JA and ET in *Hevea*

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ABSTRACT

In this research, the 25 selected important genes involved in the JA and ET signal pathway were studied with the real time quantitative –PCR techniques in order to know the regulation profile of genes in the crosstalk between JA and ET in *Hevea*. The results displayed from 5 levels that among these 25 genes, there are different expressions and responses to the MeJA and ET signal regulation. On the kinetics level, 4 of the 25 genes were up-regulated among the different time; on the MeJA response level, 8 genes of them were up regulated in the response to MeJA stimulation; on the ET treatment level, the 8 members were up regulated by ET; particularly, ETR2 and GP were the genes only responsive to ET regulation in the all treatments with increased expression; on the wounding level; 6 genes were up regulated by wounding, but 8 genes were decreased in their expression. Regarding to the ET and MeJA co-regulation, there were 5 genes significantly regulated both by MetJA and ET: the genes QMR, EIN3, GS and CAL were up-regulated, whilst the SAUR is up-regulated by MetJA and down-regulated by ET. A co-regulation of certain genes was observed for MeJA and wounding stresses: 6 genes were up-regulated by both treatments, whilst the defensin is down-regulated. These results could provide a basic research profile for the interaction of MeJA and ET.